

WE CLAIM:

1. An injection molding heated nozzle comprising:
a nozzle body defining a melt channel;
a first heater securely attached to and supported by the nozzle body for heating a first portion of the melt channel; and
a second heater slidably attachable to the nozzle body for heating a second portion of the melt channel, such that the second heater at least partially overlaps the first heater.
2. The nozzle of claim 1, wherein the first heater is at least partially embedded in the nozzle body.
3. The nozzle of claim 2, wherein the first heater is located in a groove in the nozzle body.
4. The nozzle of claim 1, wherein the first heater is located around and in contact with an external surface of the nozzle body.
5. The nozzle of claim 4, wherein the first heater is a film heater.
6. The nozzle of claim 1, wherein the first portion of the melt channel heated by the first heater is substantially the same as the second portion of the melt channel heated by the second heater.
7. The nozzle of claim 6, wherein the second heater is electrically independent from the first heater.
8. The nozzle of claim 7, wherein at least one of the first and second heaters is alternatively operable to run simultaneously with and as a back-up to the other heater.

9. The nozzle of claim 7, wherein at least one of the first and second heaters is operable to run simultaneously with or as a back-up to the other heater.

10. The nozzle of claim 1, wherein the first heater includes two independent heaters.

11. The nozzle of claim 1, wherein the second heater includes two independent heaters.

12. The nozzle of claim 1, wherein the second heater is located on a sleeve that is clampable to the nozzle body.

13. The nozzle of claim 12, further comprising at least one thermocouple for monitoring the temperature of the first and/or second heater.

14. The nozzle of claim 13, wherein a first thermocouple is located on the clampable sleeve for monitoring the temperature of the second heater and a second thermocouple is positioned along the nozzle body for monitoring the temperature of the first heater.

15. An injection molding apparatus comprising:
an injection molding manifold;
a nozzle in fluid communication with the injection molding manifold at a first end and a mold gate of a mold cavity at a second end, the nozzle having a nozzle body defining a melt channel;
a first heater securely attached to and supported by the nozzle body for heating a first portion of the melt channel; and
a second heater slidably attachable to the nozzle body for heating a second portion of the melt channel, such that the second heater at least partially overlaps the first heater.

16. An injection molding heated nozzle comprising:
 - a nozzle body defining a melt channel;
 - a first heater securely attached to and supported by the nozzle body for heating a first portion of the melt channel; and
 - a second heater slidably attachable to the nozzle body for heating a second portion of the melt channel, wherein the second heater is movable along the nozzle body.
17. The nozzle of claim 16, wherein the second heater is positionable at least partially over the first heater.
18. The nozzle of claim 17 wherein the first portion of the melt channel heated by the first heater is substantially the same as the second portion of the melt channel heated by the second heater.
19. The nozzle of claim 16, wherein at least one of the first and second heaters is alternatively operable to run simultaneously with and as a back-up to the other heater.
20. The nozzle of claim 16, wherein at least one of the first and second heaters is operable to run simultaneously with or as a back-up to the other heater.